
Passiflora phellos, a New Species in Subgenus *Passiflora* (Passifloraceae)

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ABSTRACT. *Passiflora phellos* sp. nov. is described in subgenus *Passiflora* series *Laurifoliae*, more precisely, among the few species that have the first row of corona filaments shorter than the second row. This new species is known from the western Amazonian basin (Brazil, Peru, and Venezuela) and is unique in this group for its thick and fissured bark.

Key words: Brazil, *Passiflora*, Passifloraceae, Peru, ser. *Laurifoliae*, Venezuela.

Passiflora L. is the largest genus in the Passifloraceae, with more than 500 species. About 20 of these species occur from South Asia to Australia, and the vast majority are American from the mid-Atlantic region of the U.S.A. (*P. incarnata* L. and *P. lutea* L.) to northern Chile and Argentina (*P. carulea* L.). The genus is defined by the floral structure, with the ovary and the stamens borne on an androgynophore and the complexity of the extrastaminal corona. Nevertheless, species show large differences in floral morphology and a tremendous diversity in leaf shape and structure. The diversity within the genus *Passiflora* is reflected in the large number of names published for infrageneric taxa and segregate genera (190; Feuillet & MacDougal, in prep.).

Species in *Passiflora* subg. *Passiflora* are herbaceous or semi-woody climbers. The leaf venation is pinnate or palmate, rarely pedate. Inflorescences, or more accurately florescences, are sessile, 1- to 2-flowered cymes whose terminal flower is a tendril, sometimes grouped in a racemose synflorescence and then without tendril. The displaced bract and the 2 bracteoles (referred to as bracts below) form a usually large and showy verticil, under the flower. An operculum tubular or filamentose and a limen membranous at least at base are borne in the cylindrical to campanulate floral tube. If known, the chromosome number is $n = 9$ (Snow & MacDougal, 1993).

The new *Passiflora phellos* belongs to *Passiflora* subg. *Passiflora* ser. *Laurifoliae* Killip ex Cervi. This series includes 21 species that have unwinged stems, setaceous to narrowly triangular stipules, un-

lobed leaves, margin entire or (in *P. nitida* Kunth) sometimes minutely serrulate, one pair of petiolar nectaries, bracts free to the base, more than 1 cm long, entire to dentate, foliaceous and usually persistent, flowers large, usually hanging, and corona well-developed, often campanulate around the stamens and the ovary.

Passiflora phellos C. Feuillet, sp. nov. TYPE: Venezuela. Amazonas: río Yatua, just above Piedra Araucaua, 130 m, 16 July 1959, J. J. Wurdack & L. S. Adderley 43479 (holotype, NY). Figure 1.

Species haec ad *Passifloram* ser. *Laurifoliae* pertinens; ab aliis speciebus caule suberoso, profunde fissurato differt; stipulis linearibus, glandibus petiolaribus ad apicem, foliis integerrimis, oblongis-ellipticis, bracteis involucri libris integris foliaceis glandulosis, sepalis et petalis extus blancis vel viridibus, intus purpureis, filamentis extimis coronae 3/5 brevioribus quam secundis, et fructibus aurantiacis distincta.

Woody climber with tendrils. Stems covered with deeply fissured cork forming fragmented ridges, not only at base but up to most of the leafy and blooming, herbaceous parts, ridges up to 1 cm tall in old stems, distal internodes with an indumentum of minute, stiff, white hair; vegetative bud with more than 5 prophylls. Leaves simple; stipules linear, 3–5 mm long, early deciduous; petiole 0.5–1.5 cm long, canaliculate, bearing one pair of sessile glands near the apex, glands 2 × 2 mm, circular, with a rim 0.5 mm thick, often accompanied proximally by islets of cork; lamina narrowly oblong to oblong-elliptic, 8–17.5 × 2.8–4.5(–7) cm, margin entire, rounded to cuneate at base, apex shortly acuminate, acumen slightly curved, or acuminate and aristate, (6–)8–12(–18) pairs of secondary veins, these prominent on both faces, adaxially glabrous, abaxially with minute, stiff, white trichomes. Flowers hanging, one per leaf axil; peduncle 1–5.5 cm long, bearing three bracts 2–3 mm from the base of the flower; bracts verticillate, sessile, ovate, 2–4 × 1–2 cm, with marginal, sessile glands, apex acute; floral tube campanulate; sepals elliptic, ca. 4 × 2 cm, green or white outside, purple inside,



Figure 1. *Passiflora phellos* Feuillet. —A. Leafy stem. —B. Older stem with thick suber. —C. Apex of petiole with glands and suber islets. —D. Flower. —E. Flower, longitudinal section. —F. Pedicel, bracts, and floral tube. —G. Detail of bract margin with gland. —H. Fruit. —I. Seed. (After Wurdack & Adderley 43479.)

bearing a hooked, subterminal awn, 2–3 mm long, with minute, stiff, white trichomes; petals elliptic, acute at apex, green or white outside, purple inside, ca. 3–3.5 × 0.5–1 cm; corona in several rows, the 2 outer rows of thick filaments, outermost row of filaments 2–2.5 cm long, the second outer row of filaments longer than the outermost row, 3–3.5 cm long, inner several rows of small tubercles with a 0.5–0.7 mm long, filamentose apex, and last row of recurved short filaments, 1–1.2 mm long; androgynophore 2 cm long, glabrous; stamens glabrous, filaments flat, not spreading on the specimens studied, anthers dorsifixed, extrorse, parallel to the filaments and to the androgynophore; ovary elliptic, 8 × 4 mm, densely covered with erect, short, yellow trichomes, indumentum that gradually diminishes to the base of 3 clavate apical styles, 6–7 mm long, stigmas ca. 2 mm diam. Fruit ovoid, 3–6 × 2–4.5 cm, orange with pale spots at maturity; seeds ovate, asymmetric at apex, nearly flat, coarsely reticulate, ca. 6 × 4 mm, 1 mm thick in the middle, canaliculate at margin, each half crenate at margin, dark brown.

Distribution and ecology. *Passiflora phellos* is known at elevations from 90 to 150 m in Venezuela (Amazonas), Brazil (Amazonas), and Peru (Loreto). The vines grow in riparian forests and on top of shrubby vegetation on river beaches. Flowering is documented from May–July and fruiting from April–June.

Systematics. The thick and fissured corky bark resembling the suber of many tropical species of *Aristolochia* L. is uncommon in *Passiflora*. This character is found in a few species of *Passiflora* subg. *Decaloba* (DC.) Reichenbach sect. *Cieca* (Medikus) DC., for example, *P. suberosa* L., *P. sexocellata* Schlechtendal, and a few related species. In those taxa the suber is limited to old parts of a stem, a few feet away from leaves or flowers.

The new species can be inserted into Killip's key (1938: 60–61) between *Passiflora capparidifolia* Killip (sp. 209) and *P. laurifolia* L. (sp. 213), among species with the outermost row of corona filaments shorter than the second row. This group includes some species more recently described, e.g., *P. cerasina* Annonay & Feuillet, *P. fernandezii*

Escobar, *P. pachyantha* Killip, and *P. rufostipulata* Feuillet.

Passiflora phellos is characterized by the thick development of cork on stems and petioles. Within this group it differs by its narrow leaves from all taxa except *P. capparidifolia* (sp. 209) and *P. popenovii* Killip (sp. 210), from *P. popenovii* by its apical petiolar glands (vs. basal or lacking), shorter peduncles, larger bracts, and purple perianth (vs. pink), and from *P. capparidifolia* by the outermost row of corona filaments reaching 3/5 of the length of the filaments of the second row (vs. 1/2 or less).

The specimen from Peru, *MacDaniel & Rimachi 32116*, shows variation from the rest of the collections available. The cork has many more smaller ridges and is restricted to the woody stems. Furthermore, stems, leaves, and tendrils are early glabrescent.

Etymology. The epithet “*phellos*” refers to the well-developed suber (= bark, cork) on old to young stems and even as islets on petioles.

Paratypes. VENEZUELA. **Amazonas:** Río Orinoco, a black water caño just above Tama Tama, on the right bank, 23 June 1959, *Wurdack & Adderley 43154* (NY, US). BRAZIL. **Amazonas:** Rio Cuieiras, near mouth of Rio Brancinho, black water igapó, 28 Apr. 1975, *Prance, Ramos & Schubert 23396* (INPA); upper Rio Negro basin, Uanadona, near mouth of Rio Dimití, 10 May 1948, *Schultes & López 9900* (US); Rio Negro, ig. próximo à S. Gabriel da Cachoeira, 15 May 1973, *Silva, Machado & Pires 1633* (INPA); Estrada Torquato–Tapajós, km 182, a 2.500 m da margem da estrada, igarapé do Péreú, 3 Apr. 1975, *Loureiro, Coelho, Mello, Monteiro, Lima & Moreira s.n.* (INPA-48401); Rio Xié, afluente do Rio Negro, 8 May 1973, *Silva, Machado & Pires 1344* (INPA). PERU. **Loreto:** Maynas, Punchana, Río Momón, mouth to Porvenir, Tahuampa, 10 Jan. 1994, *McDaniel & Rimachi 32116* (IBE, US).

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Literature Cited

- Killip, E. P. 1938. The American species of Passifloraceae. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 19: 1–613.
Snow, N. & J. M. MacDougal. 1993. New chromosome reports in *Passiflora* (Passifloraceae). *Syst. Bot.* 18: 261–273.